

# 2009 REPORT

Uniformed Services University  
of the Health Sciences



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## President's Letter

A health sciences university fulfills many roles: a citadel of knowledge, core of innovation and center of compassion. At the Uniformed Services University of the Health Sciences (USU), these roles thrive through the careful nurturing of a collaborative environment that stretches across the street and around the world.

Our mission is to create an academic center of excellence where students, faculty and staff are challenged to do their best. Our students learn the art and science of military medicine and public service, while joining our faculty in cutting-edge research that leads to life-saving advances.

Collaborations with colleagues in the U.S. and abroad are key drivers of excellence at USU. Evidence of these collaborations is everywhere. A traumatic brain injury program taps more than 200 experts throughout the National Capital Region to advance diagnosis and treatment, while a partnership between USU and Taiwanese scientists provides insight into a genetic condition that leads to the development of tumors.

These partnerships are yielding improved medical education and groundbreaking scientific research. Our success has led the Department of Defense to increase its reliance on USU for advice on complex issues related to health care delivery.

While the accomplishments noted in these pages are impressive, our past serves as a springboard to the future. With our facilities sharing the grounds of the new Walter Reed National Military Medical Center, we see bright days ahead full of opportunities for research and teaching excellence.

We are working closely with the Office of the Assistant Secretary of Defense for Health Affairs to strengthen USU's future as an academic health leader, helping to provide the best education and training for the medical professionals who will care for our nation's sons and daughters in uniform. As tomorrow beacons, we march forward knowing that our solemn devotion to duty and dedication to serving the nation will ensure our continuing success.

A handwritten signature in black ink that reads "Charles L. Rice". The signature is written in a cursive style with a large, stylized "C" and "R".

USU President



# The USU Story

At the end of World War II, the need for military doctors was evident when doctors returned to their private practices after their discharges, leaving a shortage of military physicians in the field. Policymakers began discussing the need for a federal medical school, but the debate had little traction until renewed focus began in the 1970s, led by Rep. F. Edward Hébert (D-Louisiana). He advocated a health sciences university that would develop scholars through unparalleled medical education and would provide the nation a superb cadre of officers with unique and unparalleled skills.

In 1972, President Nixon signed a bill chartering the nation's only federal academic health center. Since opening its doors more than 30 years ago, the Uniformed Services University of the Health Sciences (USU)—often referred to as “the West Point of Military Medicine”—has taught uniformed officers to care for those in harm's way. These dedicated health care professionals continue to advance military medicine and public health in the U.S. and around the world.

In 1973, the Board of Regents appointed a site selection committee that chose 100 acres on the grounds of the National Naval Medical Center as USU's permanent home. Situated across the street from the

National Institutes of Health, the location allows USU faculty and students singular opportunities to work alongside world-renowned scientists.

Dr. Anthony Curreri, a celebrated surgeon and decorated soldier, became the University's charter president in 1974.



He began assembling the University, choosing only the best students and faculty. The curriculum would be grounded in educational and scientific rigor, the learning environment would adopt academic principles of collegiality and peer review, and the University would foster a commitment to high standards of medical professionalism.

When the School of Medicine graduated 29 officer physicians in 1980, the precedent was set for USU alumni's commitment to service. Since its founding, the School of Medicine has awarded



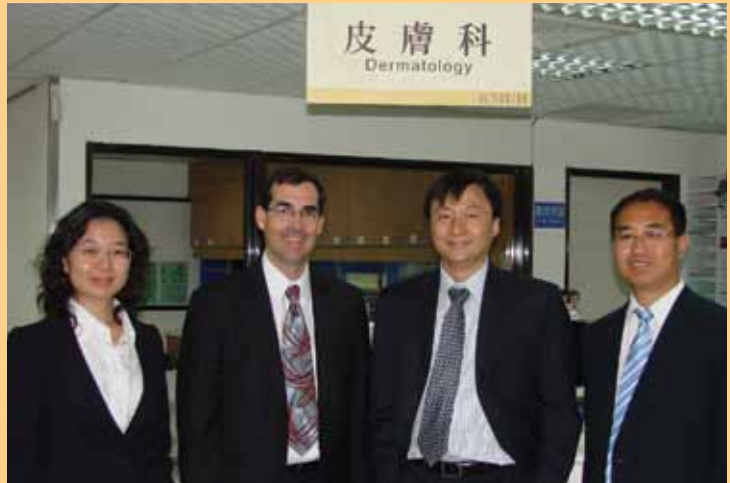
Doctor of Medicine degrees to more than 4,300 uniformed officers.

For each succeeding class, the mission of USU has remained unaltered—providing the nation with health professionals and scientists dedicated to career service in the Department of Defense and the U.S. Public Health Service, serving the common good, and continuing a commitment to medical excellence during peace and war. USU serves the uniformed services and the nation as an outstanding academic health sciences center devoted to a collaborative approach to education, research and service.

### The Importance of Collaboration

The University provides military and public health-relevant education, research, service and consultation to the U.S. and the world, actively collaborating with the militaries of other nations, research institutes, and public and private organizations to pursue excellence and innovation during times of war and peace.

USU is home to several world-renowned researchers who collaborate internationally with their colleagues from other nations. It is their goal to bridge the global divide and bring cutting-edge discoveries to the forefront.



### 'A Window Into Many Diseases'

#### Thomas Darling Professor, Department of Dermatology

Thomas Darling, M.D., Ph.D., is collaborating with Chih-Hung Lee, M.D., Kaohsiung Medical University, Kaohsiung, Taiwan, and his wife, Chien-Hui Hong, M.D., Kaohsiung General Veterans Hospital, to study tuberous sclerosis complex (TSC). Individuals with this genetic condition develop tumors in multiple organs beginning in early childhood or even before birth.

It was not known how many people in Taiwan have TSC, so Lee accessed the Taiwan National Health Insurance Database to identify all TSC patients who received care between 2004 and 2006. In an article to appear in the journal *Neuroepidemiology*, Hong, Darling and Lee report that the prevalence of TSC was highest in younger individuals, with a minimum of one in 14,608 under age 6 afflicted with the disease. Since TSC is a significant health problem in Taiwan and the U.S., Darling and his colleagues are studying tumor formation with a goal to provide better therapy.

The tumors can be found on the skin and internally. TSC skin lesions can range from subtle to disfiguring, and a patient can have one or several types of lesions. The skin tumors can be used as surrogates of the internal tumor because sampling from an internal organ is not as feasible.

Darling also collaborates with Joel Moss, M.D., Ph.D., at the National Institutes of Health. Through NIH's collaboration, he works primarily with adult women who have TSC.

"The skin provides a window into many internal diseases. For example, TSC is commonly diagnosed based on the skin findings," Darling said. "Despite this, much more was known about internal tumors than skin tumors. I felt that we could help patients with their skin disease and our findings could also propel investigations into the internal tumors."



# School of Medicine

The F. Edward Hébert School of Medicine at USU educates students to assume the dual role of physician and officer in the uniformed services, providing comprehensive medical care and serving the nation, often under adverse, austere conditions.

The School of Medicine is accredited by a number of outside organizations. Its curriculum includes an additional 500 hours of military-unique education and training that emphasizes trauma and emergency medicine, infectious disease and parasitology, the humanities and behavioral sciences, and the principles of leadership and teamwork.

The School of Medicine is tuition-free, and students earn the pay and benefits of an ensign or second lieutenant throughout their four years at USU. In exchange for their education, they commit to serving at least seven years in the uniformed services after graduation.

A majority of School of Medicine graduates build impressive careers devoted to military medicine. In fact, more than 76 percent of USU graduates choose to remain on active duty until retirement. Nearly one-fourth of all physicians currently serving on active duty are USU alumni, many of them in leadership positions. Indeed, the University counts 15 flag officers among its alumni ranks and has produced more physicians who have served in the White House than has any other medical school.

Whether serving in the White House, providing emergency surgery on the battlefield or leading medical assistance teams in response to terrorism, disasters and life-threatening diseases, School of Medicine graduates have a direct impact on the future of military medicine and public health.

Working in partnership with experienced physicians and other volunteers in 2009, then Second Lieutenant Daniel Adams and other USU students offered humanitarian assistance when they visited the Dominican Republic. The group provided free medical care to the country's underserved populations, including refugees living in homes with no running water, electricity or sewage systems. The volunteers' suitcases, containing medications, vitamins, toothbrushes and fluoride, served as mobile pharmacies.



"I was overwhelmed by the medical need," Adams said. "We saw everything from the common cold to tuberculosis and AIDS. USU gives us the tools we need to practice good medicine in bad places."

On the research front, collaborative work carried out by Air Force Second Lieutenant Jason Hoskins, a second-year student at the School of Medicine, could have a direct impact on the management of trauma and emergency medicine. The research, published in the Journal of the American College of Surgeons, shows that an aircraft-tracking method adapted to patient-data tracking may be more effective than current methods used in similar, primarily military-trauma, settings.

Hoskins, a former air traffic control officer and lead on the study, explained, “For decades, air traffic controllers have managed the complexities of airspace and aircraft handoff with a simple ... nearly flawless system.”

Designed to reach out to future students, the University’s collaborative S2M2 (Science, Service, Medicine, Mentoring) program had a clear impact on Artemisa Zuazo, whose father served in the U.S. Army. With dreams of becoming a trauma surgeon serving soldiers, Zuazo believed strongly that USU’s military-focused curriculum would serve her need to learn about caring for others in extreme environments. Wanting to know more about the school, she applied to and was accepted by S2M2, the perfect solution for her and other high-school students.

This past summer, Zuazo and other aspiring health care practitioners shadowed a surgeon, simulated suturing and developed a health care presentation. “The S2M2 program is definitely one of the best things I’ve ever done,” she said. “It reinforced everything I thought about military medicine. Now I know for sure that this is what I want to do, and this is where I want to be.”



## Combating Deadly Viruses

### Christopher C. Broder Professor of Microbiology

A collaborative research team from USU, the Australian Animal Health Laboratory (AAHL) and the National Cancer Institute (NCI) has developed and tested a novel human antibody treatment that may halt the spread of two deadly viruses, Nipah and Hendra. The team is led by Christopher C. Broder, Ph.D., professor of microbiology at USU, and Katharine Bossart, Ph.D., a USU alumna and assistant professor, Department of Microbiology, Boston University School of Medicine, and investigator, National Emerging Infectious Diseases Laboratories Institute.

Nipah and Hendra viruses are found in Pteropid fruit bats and are characterized by their recent emergence as agents capable of causing illness and death in both animals and humans. Recent outbreaks have been associated with human case fatality rates as high as 75 percent.

In experiments carried out in ferrets at the AAHL in Geelong, Victoria, Australia, the team of researchers demonstrated that giving the anti-virus human monoclonal antibody (m102.4) therapy after exposure to Nipah virus offered protection from the disease.

Earlier work at the NCI and USU resulted in the discovery of the m102.4 antibody that attacks a critical component of both viruses. Antibodies—proteins found in blood or other bodily fluids of vertebrates—are used by the immune system to identify and neutralize viruses and bacteria.

“There are currently no licensed and approved vaccines or therapeutics for prevention and treatment of disease caused by these viruses for humans or livestock,” Broder said. “This fully human monoclonal antibody is the first antiviral agent against the Nipah and Hendra viruses that has a genuine potential for human therapeutic use.”

The experiments were supported in part by the National Institute of Allergy and Infectious Diseases, National Institutes of Health, and published in the journal PLoS Pathogens.



# Graduate Programs

The Graduate Programs of the University's F. Edward Hébert School of Medicine prepare students to become scientists and health care practitioners capable of pursuing a range of traditional and nontraditional careers in service to the nation. Both civilian and military students benefit from the University's ample offering of research possibilities, graduate degree programs and state-of-the-art research facilities.

In addition to USU research laboratories, students have access to the nearby National Institutes of Health (NIH), National Naval Medical Center, National Library of Medicine, Walter Reed Army Institute of Research, Armed Forces Radiobiology Research Institute and surrounding biotechnology companies.

Research programs are supported, in part, by NIH through the Henry M. Jackson Foundation for the Advancement of Military Medicine (HJF). In addition, USU faculty members have been awarded grants from other agencies and private foundations. As a result, graduate students have the opportunity to participate in a wide selection of cutting-edge research exploring basic biomedical science, including:

- Mechanism and control of infectious diseases
- Cancer biology and mechanisms of signal transduction
- Cell-to-cell signaling
- Regulation of cell growth and division
- Developmental biology
- Regulation of gene expression.

Approximately two-thirds of USU's 173 graduate students enroll in doctoral programs, with the remainder pursuing master's degrees. The University's School of Medicine offers the following graduate degrees:

- Doctor of Philosophy
- Doctor of Public Health

- Master of Science in Public Health
- Master of Tropical Medicine and Hygiene
- Master of Military Medical History.

A physician/scientist (M.D./Ph.D.) program is also offered.



The combination of individually tailored graduate programs and the possibility of engaging in pertinent research, either in the laboratory or in the field, prepares USU students for productive and rewarding careers in many sectors of the biomedical sciences and public health.

In addition to their knowledge and training, USU graduates give back to the nation by contributing to the advancement of health and science, by mentoring and teaching the next generation of scientists and health care practitioners, and by undertaking valuable public service, often in adverse and hostile conditions.

As a result of award-winning faculty and cutting-edge research, the University produces exceptional graduates who lead programs in laboratories, clinics and classrooms across the U.S. and around the world.

## HJF Graduate Fellowships

HJF selected three sixth-year USU doctoral students to receive 2009-10 fellowships. The program, established in 1988 and comprising two Henry M. Jackson Fellowships and one Val G.

Hemming Fellowship, provides doctoral fellows with stipends and travel support.

Kathleen Jones, a student in the Emerging Infectious Diseases Program, won the Val G. Hemming Fellowship. Jones works in the laboratory of Douglas “Scotty” Merrell, Ph.D. Her thesis project focuses on understanding how mutations in a specific gene in the human pathogen *Helicobacter pylori* affect disease development. The pathogen infects more than half of the world’s population, causing a range of maladies, including gastritis, ulcer disease and gastric carcinoma. Jones has identified a link between particular sequences in an *H. pylori* virulence gene and the development of gastric cancer.

Kristen Hamilton and Robert Clark, both in the Medical and Clinical Psychology Program, won Henry M. Jackson Fellowships. Hamilton is completing her thesis project in the laboratory of Neil Grunberg, Ph.D. She is investigating the effect of stress on impulsivity, and also increased stress and impulsivity on nicotine craving. She aims to better understand how these variables affect nicotine use and drug abuse.



Robert Clark is completing his dissertation in the laboratory of Tracy Sbrocco, Ph.D. His studies focus on the cultural, behavioral and psycho-physiological basis of sexual dysfunction. He is studying

how a menopausal woman’s view of her sexuality may affect her sexual health and quality of life. Clark hopes to address the role of psychosocial, physiological and developmental factors in maintaining healthy female sexuality.



## ‘Strengths of Peers’

### Sharon Juliano Interim Director Graduate Program in Neuroscience

Sharon Juliano, Ph.D., foreground, is a professor and acting director of the Graduate Program in Neuroscience. She holds additional faculty appointments across several departments and disciplines, and she works with a broad cross-section of the University’s faculty and students.

These highly diverse interactions enhance the learning environment by weaving together unique perspectives. Juliano fosters idea exchanges both in the classroom and laboratory, from medical students, graduate students and the post-doctoral fellows she mentors.

For example, Juliano facilitates open discussion through weekly data clubs. These informal gatherings give students opportunities to present their research findings to an audience with versatile skills. The platform encourages students to approach science in dynamic, innovative ways.

“The University is a very collegial place to work,” Juliano said. “Not only do my students understand the importance of collaboration when addressing important scientific questions, but I, too, rely on the strengths of my peers when conducting research.”



# Graduate School of Nursing

Founded in 1993 to pursue excellence in serving the needs of advanced-practice nurses in the uniformed services, USU's Graduate School of Nursing (GSN) initially provided a master of science in nursing with specialization in anesthesia nursing or family nurse practitioner.

To meet the evolving requirements of the uniformed services, the GSN added the peri-operative clinical nurse specialist program leading to a master's degree and a doctoral program focusing on nursing science in 2003. The GSN launched the adult psychiatric mental health nurse practitioner degree program five years later.

The GSN's curriculum focuses on operational readiness, clinical decision-making, and population health and outcomes. Students are trained to work in acute and primary-care settings, with emphases on patient safety, professional ethics, force protection and international health. Graduates are prepared to support the U.S. military and Public Health Service, and to answer calls for humanitarian assistance.

In addition to careful curriculum development, the GSN pursues excellence in clinical practice and health care research. This fiscal year marked the activation of the Dr. Faye Glenn Abdellah Center, USU's newest research center. Named for GSN's trailblazing first dean, the center provides a primary research infrastructure for nurse scientists.

## Pursuit of Excellence

Gloria Ramsey, J.D., R.N., FAAN, associate professor at the GSN, embodies the pursuit of excellence. Ramsey was inducted into the American Academy of Nursing and recognized for her expertise in bioethics. Ramsey presented two papers at the ninth World Congress of Bioethics, organized on behalf of the International Association of Bioethics.



Students and faculty demonstrated excellence during the 76th annual meeting of the American Association of Nurse Anesthetists (AANA). Two GSN submissions were selected in the AANA Foundation's State of the Science competition.

The AANA recognized four others for their pursuit of excellence. Navy Commander John Maye, Ph.D., won the AANA "Researcher of the Year Award" for his contribution to the practice of anesthesia through clinical research.





Maye is assistant professor and director of research for the Nurse Anesthesia Program.

Air Force Lieutenant Colonel Kevin Bohan, CRNA, Ph.D., NC, received this year's AANA post-doctoral fellowship for his work in the development of an anesthesia research program. Assistant director of the Nurse Anesthesia Program, he directs student research.

The Foundation also honored Army Reserve Major Judith Wiley, CRNA, from Rush University assigned to GSN's Nurse Anesthesia Program as "Clinical Instructor of the Year," and GSN Associate Dean for Academic Affairs Army Colonel Bruce Schoneboom, Ph.D., as "Friend for Life."

Recognizing its faculty for talent and pursuit of excellence, the GSN presented the annual Clinical Educator Awards to Air Force Major Kelly Nader, Carlton Brown, M.S., and Army Major Ricky Norwood.



### Associate Dean For Research Appointed

Marguerite Littleton-Kearney, Ph.D., became associate dean for research in September. She served most recently as an associate professor at The Johns Hopkins University School of Nursing. A former critical care nurse at the National Naval Medical Center in Bethesda, Md., and a Navy Reserve captain, she was activated to full active-duty status on two occasions.

Littleton-Kearney holds bachelor's and master's degrees from the Medical College of Georgia in Augusta, as well as a diploma from Mercy Hospital School of Nursing in Baltimore. She earned her Ph.D. and completed a post-doctoral fellowship at Rush University.



## Understanding Genetic Disorders

### Diane Seibert Director, Family Nurse Practitioner Program

Through a project called GeneFacts, Diane Seibert, Ph.D., is collaborating with health professionals from across the nation to foster greater awareness and understanding of genetic disorders. GeneFacts, produced in association with the National Coalition for Health Professional Education in Genetics, is a web-based resource providing answers to common genetic questions.

As one of three senior editors, Seibert is pairing family physicians and genetics counselors in writing teams. These authors are developing point-of-care information that will assist with the diagnosis and treatment of a variety of genetic disorders.

"I want to be able to provide my students and other health care providers with a place to find good information about how to treat patients with clinical conditions that have a genetic underpinning," Seibert said. "Having access to a resource like GeneFacts will allow them to better serve their patients by receiving quality information quickly."

# A Unique University

Medical and nursing students at the Uniformed Services University are active-duty uniformed officers in the Army, Navy, Air Force and Public Health Service. These dedicated individuals will become health care practitioners in some of the most challenging austere environments, including wartime, natural disasters, emerging infectious disease sectors and public health emergencies.

USU has a remarkable, worldwide reputation as a center of excellence. Students, faculty and alumni attribute the University's extraordinary impact on military medical research and humanitarian assistance around the world to its passion for medical science and commitment to national service.

The University's motto, "Learning to Care for Those in Harm's Way," befits those individuals who decide to study and prepare for careers in service to the nation and who become outstanding graduates, scientists and health care practitioners. During their time at USU, students gain an understanding of the needs of military patients and sensitivity to their special requirements.

Indeed, USU is a university unlike any other: Unique in the education it offers its students, faculty and alumni and unique in its educational resources for military medical personnel that emphasize equal parts science, compassion and hope.

Through agreements with other military treatment and research centers, USU offers its students and faculty an unparalleled gateway to collaborative research and clinical settings that allow graduates to have a direct impact on the future of military medicine and public health.



## Unique Ways of Educating

### *Operations Kerkesner and Bushmaster*

Taking advantage of USU's experienced faculty and "teachable moments" with students, Operation Kerkesner and Operation Bushmaster are annual rites of passage for first- and fourth-year medical students, respectively. Both events assess students' knowledge, skill and attitudes as military officers.





The field training exercises offer USU students simulated “real-world” experience in providing medical care in support of warfighting, peacekeeping and humanitarian assistance operations. The training also prepares students for natural or man-made disasters, helps them develop cultural sensitivities, and enhances their capacity to practice field preventive medicine in mitigating the threat of water- and food-borne, and insect-transmitted illnesses. The exercises also test the student’s knowledge and understanding of permissible rules of engagement.

Operation Kerkesner offers first-year medical students the skills and training needed to operate in a hostile field environment. The goals are to allow inexperienced officers to become part of a disciplined team, orient students to life in the field and challenge experienced officers in unexpected ways.

Operation Bushmaster, a capstone of the USU curriculum that merges classroom knowledge and battlefield training to treat combat trauma patients, is best described as a large, complex practical laboratory exercise in a simulated combat environment. In the field, students treat patients while simultaneously organizing movement of their facility, performing triage, and evacuating and managing mass casualties during the day and night. Students are graded as part of their academic curriculum.

“For nearly 30 years, USU has been charged with preparing graduates for the realities of war and disasters,” said USU President Charles Rice, M.D. “There has never been a more critical need. Our students leave us knowing that when the time comes, they will be ready. The graduates know that the men and women who sacrifice so much for our nation deserve the best possible care.”

### *Antietam March*

America’s bloodiest one-day battle, which saw more than 23,000 men killed or wounded, took place in the Civil War amid the cornfields of western Maryland. More than 140 years later, the hard lessons learned on the Antietam battlefield offer a one-of-a-kind teaching tool for modern military medical training.

More than 150 medical students from USU, accompanied by a number of students from the Graduate School of Nursing, participated in a six-mile road march through the Antietam National Battlefield in Sharpsburg in the spring of 2009 as part of their first-year curriculum. Originally intended as a way for students to break in their new combat boots, the field exercise serves as a means of teaching students, from a historical perspective, the basic tenets of battlefield health care.

University students marched in small groups and stopped at stations along the route to hear local Civil War re-enactors discuss conditions and battlefield strategies. USU faculty members also highlighted the medical aspects of the battle, stressing the importance of care on the front lines, medical logistics and the use of evacuation assets.





### *Presidential Classroom*

More than 40 high school students participated in this year's Presidential Classroom, a weeklong program hosted by the Armed Forces Radiobiology Research Institute (AFRRI). The endeavor addresses a wide range of topics, including public policy, national security, science, energy technology, journalism and global health.

The program began nearly a decade ago, when calls went out to several science labs around the Washington, D.C. area seeking their participation. AFRRI answered the call and has been a sponsor of Presidential Classroom for nearly 10 years.

"The students gain a better understanding of what our armed forces are doing, not necessarily on the battlefield, but in the lab as it relates to science and technology," said Annabelle Ombac, logistics manager for the program. "Specifically, they learn what radiation is, what everyday items have traces of radioactivity, and on a larger scale, what AFRRI is doing with its research of large traces of radioactivity so we can be prepared, if attacked."

The institute plays a vital role in national defense and in protecting humanity from radiological threats worldwide. AFRRI fosters widespread collaborations with government facilities, academic institutions and private industry in the U.S. and abroad. Its long-standing sponsorship of the Presidential Classroom series and independent research affirms its unique ability to enrich and stimulate the minds of young scientists.

### *Educational Training*

USU's Center for Health Disparities (USUCHD) has significant expertise in assessing reasons for health and health care disparities. The center develops and implements educational initiatives that give providers the tools and skills necessary to deliver high-quality care to diverse populations. Its goal is to significantly enhance medical education, research and practice for underserved populations.

In 2009, the center entered into a partnership that will address the lack of health care provider and practitioner training, educational resources and service uniformity. The partnership also studies systemic impediments that exacerbate cultural, economic, familial and regional challenges contributing to disparities in health and health care. Partnering with USUCHD on this venture is Steptoe Group, LLC, a management consulting and technical services firm.

The relationship will provide a program to deliver patient-centered, evidence-based services to address the mental health needs of vulnerable populations within the military community.

### *USNS Comfort*

Learning never ends for health care professionals. As their formal education concludes, health care practitioners immerse themselves in continuing



education, which remains a key component of their careers. USU is dedicated to providing continuing educational opportunities for medical professionals wherever the classroom is—even on the open sea.

USU faculty and staff from the Naval Health Research Center, San Diego, developed a continuing education curriculum that was adopted and modified for use aboard the USNS Comfort, a hospital ship conducting humanitarian missions in the southern hemisphere. Comfort personnel partnered with in-country health care providers to bring free medical, dental and veterinary care to those in need.



“The purpose of USU’s continuing education program is to provide innovative, quality continuing education for Department of Defense health care professionals to facilitate professional development, lifelong learning and improved patient care,” said retired Navy Captain Patricia Kenney, supervisor and nurse educator at USU’s Office of Continuing Health Education.

Providing continuing education for health care professionals aboard the



## From Bench to Bedside

### John Baker and Mark Scher Joint Office of Technology Transfer

The Uniformed Services University of the Health Sciences (USU) and the Henry M. Jackson Foundation for the Advancement of Military Medicine, Inc. (HJF) formed a Joint Office of Technology Transfer in 2000. This partnership encourages collaboration between military and civilian medicine to move innovative technologies into the marketplace—from bench to bedside.

Joint Office of Technology Transfer team members John Baker, J.D., right, and Mark Scher, Ph.D., play vital roles in the technology transfer process. Their work has assisted in many notable achievements, including the successful management of license agreements for products ranging from diagnostics for infections and simple devices for home care of cancer patients to vaccines for infectious diseases and cancer. All have potential for worldwide military and civilian use.

As USU general counsel, Baker provides legal oversight by ensuring that federal laws, Defense Department regulations and good business practices are followed throughout the technology-transfer process.

Scher, the director of technology transfer and commercialization for HJF, ensures that inventions are protected through the patenting process and leads efforts to negotiate cooperative research and development agreements and licenses with commercial partners.

“USU and HJF together play an integral role in medical research and technology transfer, including initiatives directly supporting the mission of the Department of Defense and broadly serving the public good,” Baker said.



USNS Comfort is an exceptional example of pursuing education no matter the location. A deeper look into the partnership-building activities of the Office of Continuing Health Education revealed that in fiscal 2008, the office provided continuing education to 10,546 doctors, nurses, psychologists, health care executives and social workers. A total of 10,473 individuals received general certificates of attendance.

### Unique Educational Resources

USU offers an extraordinary learning experience that blends science with a commitment to service. Although the quality of the core medical education remains consistent with other notable medical academic institutions, USU's School of Medicine curriculum contains an additional 500 hours of military-unique content for medical students.

The University's educational and research programs derive unparalleled benefits from its faculty members who deploy around the world on humanitarian and research missions and provide care for those in combat and in the wake of disaster. Educational resources abound at USU—from the alumni serving as mentors and role models, to the brick and mortar that house the centers of excellence. USU's unique educational resources provide a military medical education second to none.

### *Simulation Center*

By the time they graduate, USU medical students receive more simulation practice than they would at most medical schools in the nation. During their four years at the University, students participate in approximately 40 different simulations in preparation for their careers as military medical officers.



Much of this training occurs in an 8,000-square-foot, full-scale, immersive virtual-reality area that allows teams of students to participate in simulated mass casualty drills, biochemical attacks and other medical training scenarios. This unmatched facility, the National Capital Area Medical Simulation Center, is an integral part of USU's mission to provide state-of-the-art technology to conduct clinical and surgical skills training. The facility offers students some of the most advanced medical simulation technology available in the world.

Going beyond the classroom, the training and simulations conducted at the center are critical components of the Washington, D.C. region's readiness and ability to respond to man-made or natural disasters.

### *Mine Victim Assistance Program*

Providing a multitude of opportunities for USU students to hone their medical craft is at the heart of the University's education philosophy. This dedication to skill development produces some outstanding learning challenges. One such opportunity occurred when a team of medical personnel from USU's Center for Disaster and Humanitarian Assistance Medicine spent three years participating in a mine victim assistance program in the Republic of Chad.





The center, part of the Department of Military and Emergency Medicine at USU, provides assistance to the government of Chad in the form of sustained training, as well as material resources and technical guidance. The effort seeks to build capacity and increase self-sufficiency for treating casualties of any trauma.

A curriculum for the First Responders in Austere Environments was adapted for a target audience of de-miners and translated into French. As a result, more than 225 individuals were trained in stabilizing victims from accidental explosions. By recruiting the best performers in each class as assistant instructors, the knowledge spreads to small villages and towns throughout Chad to increase self-sufficiency.



“This program is an excellent opportunity to use health care diplomacy to win hearts and minds, or gain access and influence, in a crucial part of the world. Our security at home is increasingly dependent on global and regional stability, and it starts in places like Chad,” said retired Air Force Colonel Charles Beadling, M.D., a USU graduate and director of the center. He leads the humanitarian mission in Chad.



## Single IRB Streamlines Review Process

### Captain Gregory Martin Department of Preventive Medicine and Biometrics

Established by USU and the National Institute of Allergy and Infectious Diseases (NIAID) in 2005, the Infectious Disease Clinical Research Program (IDCRP) is a major initiative that focuses on clinical infectious diseases of military importance. This multifaceted program encourages the exchange of scientific ideas and development of collaborative research efforts between Department of Defense (DoD) and NIAID investigators in military treatment facilities and research laboratories.

Led by Navy Captain Gregory Martin, M.D., and headquartered within USU’s Department of Preventive Medicine and Biometrics, the program is built around a global network of military clinical sites and leverages DoD’s extensive health care and research infrastructure. The framework allows IDCRP to rapidly address novel infectious disease threats around the world as they are identified, providing an ideal platform to study new challenges.

USU researchers collaborated on the establishment of a network infectious disease institutional review board (IRB), with goals of decreasing the amount of time needed to move research from bench to bedside, harmonizing research practices and strengthening communication throughout DoD.

The IRB also facilitates high-priority military research through the program and streamlines the institutional review and approval process by enabling researchers to work with a single board for multicenter protocols. Collaborative research can now be reviewed once, freeing DoD and NIAID to emphasize multicenter studies. Previously, such studies required as many as seven separate reviews that often imposed significant delays.

Milestones of accomplishment and markers of progress punctuate a year in USU's life. These achievements frequently blend education and research in pursuit of military and public health advancements. In addition to the outstanding scholarship opportunities, students also engage in a variety of activities that enrich the USU experience and enhance campus life.



USU's Research Week, held in mid-May, promoted research initiatives of faculty, staff and students and provided opportunities for interdisciplinary collaboration and communication between USU graduate students and faculty. Patricia Grady, Ph.D., R.N., FAAN, the director of the National Institute of Nursing Research, gave the plenary lecture.

In June, USU's Faculty Senate hosted its second annual Education Day. "Building Bridges: Integrating Basic and Clinical Science Education" promoted continuing education of faculty, staff and students, as well as affiliated teaching institutions. Discussions included innovation and effective strategies in health sciences education, along with the transfer of strategies between basic science and clinical disciplines.

Air Force Lieutenant General James Roudebush, M.D., the service's surgeon general, addressed more than 200 graduating physicians, advanced practice nurses and scientists at the University's 30<sup>th</sup> commencement exercise on May 16.

As the Air Force's medical leader, Roudebush, now retired, advised on



medical aspects of the air expeditionary force and the health of the Air Force population. The ceremony was steeped in military and academic traditions as Roudebush discussed the importance of educating medical leaders. USU now has more than 5,000 alumni.

## Warrior Care Month

The U.S. Secretary of Defense designated November as Warrior Care Month to honor servicemembers' sacrifices and to increase awareness of America's programs and resources. USU hosted senior leaders of the military health system to discuss the spectrum of health care, with focus on services offered for posttraumatic stress disorder and traumatic brain injury.

In recognition of Warrior Care Month, the University's Center for the Study of Traumatic Stress created a Warrior Care website that contains educational resources for leadership, health care providers and military families.

## Awards, Appointments And Honors

Air Force Colonel Brian Reamy, M.D., was selected as USU's Associate Dean for Faculty following a nationwide search. Reamy previously served as the chair of USU's Department of Family Medicine. As associate dean, Reamy is responsible for working as a faculty advocate to



promote an academic environment that supports, enhances and rewards the activities of hundreds of on-campus School of Medicine faculty and thousands of non-billeted faculty throughout the Military Health System.

The American Association of Nurse Anesthetists Foundation awarded this year's prestigious postdoctoral fellowship to Air Force Lieutenant Colonel Kevin Bohan, Ph.D., certified registered nurse anesthetist (CRNA). He is assistant director of the Nurse Anesthesia program and director



of Air Force, Army and Public Health Service nurse anesthesia student research at USU's Graduate School of Nursing. The fellowship was established in 2006 to recognize CRNAs at the doctoral level actively involved in developing an anesthesia research program. Bohan chaired and coordinated several concurrent student research projects pertaining to simulation.

Harry Holloway, M.D., professor of psychiatry and neuroscience at the School of Medicine, was named to the External Advisory Council for the National Space Biomedical Research Institute. Funded by NASA, the institute studies health risks related to long-duration spaceflight. Its External Advisory Council includes leaders in research fields central to the institute's mission.

Vincent Ho, M.D., professor in and vice chair of the Department of Radiology and Radiological Sciences, was selected to lead the newly integrated Department of



## Upholding the Spirit of Camaraderie

### Master Chief Clinton Garrett Brigade Senior Enlisted Leader

Master Chief Clinton Garrett plays a critical role in advancing USU's mission as the senior enlisted leader. He is the voice of the noncommissioned officers and a liaison for the University brigade commander and president.

Garrett's previous experiences working with servicemembers from all branches of the military make him an ideal candidate for a leadership position in USU's joint service environment. His challenge on the Bethesda campus is to maintain respect for each service and their respective cultures while upholding the spirit of camaraderie that underscores excellence in the USU learning environment.

"Working at USU has been an incredible experience," Garrett said. "I've learned much about the armed forces as a whole, particularly the unique tenets of military medicine that are gained by serving in this one-of-a-kind environment. Here, the strengths of every service are harnessed, thus ensuring the mission of caring for those in harm's way is achieved."



Radiology of the National Naval Medical Center and Walter Reed Army Medical Center. The two medical centers are slated to merge into the Walter Reed National Military Medical Center in Bethesda in 2011.

The Faculty Senate Education Committee awarded two Innovation in Teaching Awards to faculty members who went beyond the standard of teaching to improve the University and student experience. Rosemary Borke, Ph.D., professor, Department of Anatomy, Physiology and Genetics, won the Preclinical Science Award for originality or creativity in neuroanatomy.

James Smirniotopoulos, M.D., professor in the Department of Radiology and Radiological Sciences, was awarded the Clinical Award for technology changes in medicine, in particular MedPix, the electronic “Radiology Glossary” and the “Brain Lesion Locator.”

Brian Cox, Ph.D., professor, Department of Pharmacology, was awarded the prestigious Carol J. Johns Medal for outstanding contributions to the School of Medicine and Graduate School of Nursing as both mentor and leader. The USU Faculty Senate honored Cox as best among the University faculty for developing engaging lectures, creating an interdisciplinary neuroscience graduate program and serving as a member on several committees promoting academic excellence. Cox is also a world-renowned scientist, who has performed pioneering studies of endogenous opioid peptides. Cox’s work contributes directly to understanding mechanisms and actions of key medicinal agents and abused recreational drugs. He is the president of the American Society of Pharmacology and Experimental Therapeutics.

Colleen Conway-Welch, Ph.D., was recognized by Modern Healthcare as one of the Top 25 Women in Healthcare. She is a USU Board of Regents member and dean of the School of Nursing at

Vanderbilt University, where she has served for 25 years, one of the longest-serving deans of a nursing school in the country.



### Brigade Offers Military Expertise

USU medical and nursing students are active-duty uniformed officers in the Army, Navy, Air Force and Public Health Service who are being educated to deal with wartime casualties, disasters, emerging infectious diseases and other public health emergencies. The USU Brigade serves as the University’s military leadership component and provides military expertise to its staff, faculty and students.

The brigade offers administrative, legal and operational support, and training, while contributing to continuity, leadership and military medical readiness. Members of the brigade include officers and enlisted personnel.

Led by Army Colonel John Wempe, USU’s uniformed students, faculty and staff participate in activities such as regular formations, performance evaluations, physical fitness exercises, testing and training in appropriate uniformed programs and customs.

### USU Notables

The Compassionate Friends recognized USU as one of 141 employers nationwide that show enhanced



sensitivity to bereaved employees following the death of a child of any age. The group is the nation's largest self-help bereavement organization. USU was among those selected in 2009 "for going above and beyond the normal policies of most companies in helping their employees when the death of a child occurred."

USU's Office of Continuing Health Education (CHE) was awarded a five-year accreditation by the American Psychological Association. CHE serves the U.S. federal health care delivery system globally and provides continuing education credits for health care executives, nurses, pharmacists, physicians, psychologists and social workers. This accreditation enables USU to continue awarding credits to psychologist participants at educational events.

As part of the National Naval Medical Center-Walter Reed Army Medical Center-USU Integrated Grand Rounds series, Harvey Fineberg, M.D., Ph.D., president of the prestigious Institute of Medicine of the National Academies, presented "The Swine Flu Situation: 1976 as Applied to Now-What to Expect in the Fall." Fineberg spoke to more than 200 health science professionals about the relevance of history in understanding the current H1N1 virus.

The American College of Obstetricians and Gynecologists Committee on American Indian Affairs established a new award in honor of a USU faculty member. The "William H.J. Haffner American Indian/Alaska Native Women's Health Award" was named for USU's former Department of Obstetrics and Gynecology chair and associate dean for faculty development.

The award recognizes an individual who has made a major contribution to raising the level of health and/or improving American Indian/Alaska Native (AI/AN) women's health care. In naming the award, the committee sought someone who was "a living example of what the award stands for." Dr. Haffner, a retired U.S. Public



## From Alumnus to Faculty

### Jeffrey Longacre Vice President for Affiliations and International Affairs

Jeffrey Longacre, M.D., has contributed to USU in many ways over the past three decades. He graduated from the School of Medicine in 1986 and returned as a uniformed faculty member in the Department of Pediatrics in 1998. He was recently selected as the vice president for affiliations and international affairs.

Longacre also serves as the special assistant to the Joint Task Force, National Capital Region Medical. His charge ensures the University's role in the academic health center with the opening of the future Walter Reed National Military Medical Center in 2011, co-located with USU.

Through his senior administrative post, Longacre is working to expand and enhance University relationships with military and civilian treatment centers worldwide. These partnerships benefit USU students by strengthening their clinical skills and broadening their awareness of global health issues. USU offers reciprocal experiences for international students as well. Students from countries around the world are provided opportunities to learn alongside USU students in the National Capital Region.

"Our graduates advance health and science at home and abroad. Therefore, it is fundamental that USU maintains international perspectives in learning," Longacre said.



Health Service captain who was assigned to the Indian Health Service for many years, was chosen as the epitome of “dedication and exceptional service to AI/AN women’s health care.” The first award will be presented in May 2010 at the college’s annual clinical meeting.



Four acclaimed actors performed readings at USU that examined topics of violence, ethics and suicide. These topics led to discussions after the presentation about approaches to military medical treatment and education. Bryan Doerries, writer, founder and director of “The Philoctetes Project: Theater of War,” discovered that the ancient stories have relevance for a military audience. The USU venue encouraged post-reading faculty and student discussions.

### Lights, Camera, Action

“Fighting for Life,” a documentary film, aired on Public Broadcasting Service, (PBS) stations nationwide. Produced by two-time Academy Award-winning filmmaker Terry Sanders, the film focuses on the role USU plays in educating leaders in military medicine and looks at the care they provide to servicemen and women injured in combat.

USU partnered with Sesame Workshop and Maryland Public Television to host a screening of the PBS primetime special, “Coming Home: Military Families Cope With Change.” Stephen Cozza, M.D., professor, Department of Psychiatry and associate director of the Center for the

Study of Traumatic Stress, was featured in the special. He has worked extensively with families and children of deployed members. The special discusses the challenges injured soldiers and families face in coping with major life challenges and encouraged support of one another.

### New Board of Regents Members

*Retired Army Lieutenant General  
Ronald Blanck, D.O., chair.*

Blanck currently serves as vice chairman and partner of Martin, Blanck & Associates. Previously, he was president of the University of North Texas Health Science Center at Fort Worth and remains a professor in the university’s Department of Internal Medicine. Blanck began his military career in 1968 as a medical officer and battalion surgeon in Vietnam. He retired 32 years later as surgeon general of the U.S. Army and commander of the U.S. Army Medical Command.

*Dr. Haile Debas, member.*

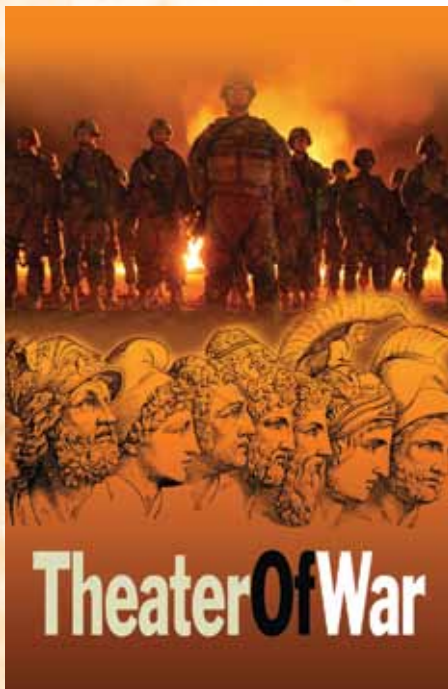
Debas is executive director of Global Health Sciences at the University of California-San Francisco. He is also the Maurice Galante Distinguished Professor of Surgery and holds hospital appointments at the University of California Medical Center and Mount Zion Medical Center.

*Dr. Michael Johns, member.*

Johns is chancellor of Emory University, where he previously served as chief executive officer of the Robert W. Woodruff Health Sciences Center, executive vice president for health affairs, chairman of the board of Emory Healthcare, and professor in the Department of Otolaryngology.

*Dr. Kenneth Moritsugu, member.*

Moritsugu currently serves as vice president of Global Strategic Affairs for LifeScan Inc., a Johnson & Johnson



company. He is also chairman of the Johnson & Johnson Diabetes Institute.

*Dr. Gail Wilensky, member.*

Wilensky is an economist and senior fellow at Project HOPE, an international health education foundation. She is also a commissioner on the World Health Organization Commission on the Social Determinants of Health.

*Retired Marine Corps General  
Charles Krulak, member.*

Krulak is actively engaged in corporate governance as a member of both the Union Pacific Corp. and Freeport-McMoRan Copper and Gold Corp. board of directors. The former Commandant of the Marine Corps also served for six years as a senior executive with MBNA Bank.

*Mr. Lawrence Lewin, member.*

Lewin is an executive consultant, founder and former president and CEO of the Lewin Group. For more than 40 years, he has directed a wide range of projects involving health policy and finance, academic medicine, and health systems management and governance. He was a member of the DoD Task Force on the Future of Military Health Care and is currently a member of the International Advisory Committee for Brookdale's Smokler Center in Jerusalem.

## Serving the Broader Health Community

The Center for the Study of Traumatic Stress made online resources available to aid in recovery from community violence. Fact sheets entitled "Psychological First Aid: Helping Victims in the Immediate Aftermath of Disaster" and "The Impact of Kidnapping, Shooting and Torture on Children" are among the resources that offer help.



## Advancing the Mission

### Retired Major General Patrick Sculley Senior Vice President for University Programs

Students, faculty and alumni advance the University mission well beyond the flagship campus. Retired Major General Patrick Sculley, D.D.S., is supporting this geographically diverse population as USU's senior vice president for university programs from the new USU office in San Antonio.

Sculley facilitates opportunities for USU stakeholders in the southern region by advocating on their behalf. Interfacing with uniformed medical professionals at various military and civilian treatment facilities allows him to understand the needs of uniformed medical professionals. He shares this knowledge with University leadership in order to promote a better administrative and academic environment.

An additional focus of Sculley's charge entails seeking opportunities to improve the future of military health care. Under this banner, he is serving as chairman of a committee seeking to establish University-sponsored dental graduate degree programs for comprehensive dentists and oral and maxillofacial surgeons.

"We are ever vigilant of new opportunities to better serve those who serve our nation. I am grateful to once again be involved in the health care mission on behalf of uniformed servicemembers and their families."



# Research

Research at USU is, by nature, collaborative. Forming partnerships, supporting research studies and promoting the expansion of educational opportunities utilize the unique capabilities and resources available to a university known as the “West Point of military medicine.”

USU is a leading subject-matter expert on military medicine, but the University’s research accomplishments and educational influence are providing valuable contributions to civilian medicine and public health.

Much of the research within the military medical system is similar to that undertaken in the private sector, with a notable exception. Military scientists, in many cases, have access to tools and assets beyond those available to most civilian researchers because of the Defense Department’s vast network of laboratories and medical research facilities. The armed forces operate laboratory and clinical sites throughout the U.S. and around the world. This network provides military medical researchers with unparalleled and extensive resources, enabling them to conduct state-of-the-art scientific investigations on a global scale.

## Center for Prostate Disease Research

The Center for Prostate Disease Research (CPDR), part of USU’s Department of Surgery, has made groundbreaking discoveries to unravel the mysteries of prostate disease. These discoveries have propelled its reputation as one of the leading prostate disease research centers in the nation.

The center adopted a holistic approach to prostate research that has enabled the program to make significant progress on both the scientific and clinical research fronts. The center has forged relationships with prestigious institutions through



creation of a much-heralded multicenter national prostate cancer database.

In 2009, a collaborative research effort by CPDR, Walter Reed Army Medical Center and Gen-Probe Inc., a leader in the development of rapid, accurate and cost-effective nucleic acid tests, bore fruit after two years of intensive work. The partnership developed a new diagnostic test for prostate cancer, based on the promising prognostic utility of the urine PCA3 test. The development is significant, as the PCA3 test could provide valuable prognostic information and may help determine which patients are candidates for active surveillance versus more aggressive treatment of prostate cancer.

In another breakthrough, CPDR researchers unraveled new aspects of the male hormone (androgen) receptor regulation in prostate cancer. The groundbreaking data led to the discovery of a completely new mechanism of regulation of the androgen receptor by the NEDD4 binding protein called PMEPA1. CPDR discovered the protein as a prostate-abundant and androgen-regulated gene.

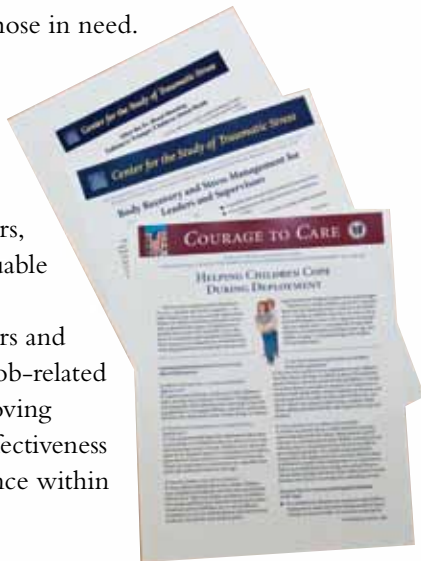
The center, established in 1991, integrates the efforts of faculty and staff from USU, Walter Reed Medical Center, Armed Forces Institute of Pathology and eight other DoD medical centers.

## Center for the Study Of Traumatic Stress

Uniquely positioned as the nation's premier center for addressing a wide scope of trauma exposure from the consequences of combat and public health threats, USU's Center for the Study of Traumatic Stress bridges military and disaster psychiatry as it integrates disaster mental and public health.

The center, a reservoir of medical literature and training materials related to public health, produces fact sheets and research literature to support the nation's military servicemembers and their families. The center's fact sheet series "Courage to Care" addresses suicide warning signs, risk factors and the barriers to care often felt by those in need.

The center educates families and friends of servicemembers, provides a valuable resource for servicemembers and helps reduce job-related stress by improving operational effectiveness and performance within the military.



## Infectious Disease Clinical Research Program

A study published in the June 2009 issue of Military Medicine recommended that the Military Health System place a continued emphasis on infection control, suggesting that military hospitals and treatment facilities may be vulnerable to multi-drug resistant (MDR) bacteria.

A team of doctors from USU, the Infectious Disease Clinical Research Program affiliated with the University, and Brooke Army Medical Center conducted the study. The scientists discovered



## Developing Teaching Skills

### Steven Durning Professor of Medicine and Pathology

Steven Durning, M.D., professor of medicine and pathology at the USU Department of Medicine, is collaborating with Th.J. (Olle) Ten Cate, Ph.D., University Medical Center, Utrecht, the Netherlands, and other colleagues to study the benefits and challenges of peer-teaching in medical school.

Durning, Cate and others believe that training future physicians for their role as teachers should be introduced and practiced in medical school because most physicians receive little or no formal training to develop their teaching skills at universities or during residency training.

The researchers noted that formal systems of peer-teaching seem to be less prevalent in medical school than in other advanced-degree graduate programs. In order to evaluate the effectiveness of peer-teaching, the researchers administered a survey at their respective institutions.

The survey, completed by students who participated as either student or teacher, revealed some strengths and weaknesses at both locations. Evidence from the survey led the researchers to devise 12 rationales that support the use of peer-teaching. After studying the survey, experts offered remedies for further extending the roles of educators and modifying academic medical culture.





indications that certain bacteria are developing drug resistances and may be able to survive in military hospitals.

USU alumnus Army Lieutenant Colonel Clinton Murray, M.D., was the lead author of the collaborative study. Murray's team found that MDR bacteria infected combat casualties from both Iraq and Afghanistan and suggested that newer infection-control strategies might be needed. The study also revealed the difficulty of pinpointing the origin of an infection because of the complex military medical evacuation process, ferrying a patient to as many as five health care facilities, each with varying infection-control strategies and priorities.

### Cancer Research

The Military Health System also is charged with caring for tens of thousands of military family members. To that end, the armed forces operate extensive, world-renowned cancer research programs, along with initiatives to investigate heart disease, diabetes and other health concerns.

A recent study—published in the journal *Cancer Epidemiology, Biomarkers and Prevention* and sponsored by the Defense Department and National Cancer Institute—indicated that active-duty military personnel might have lower risks of developing certain kinds of cancer, compared to the public.

These findings became known after a group of researchers from the Military Health System, led by USU scientist Dr. Kangmin Zhu, and the National Institutes of Health examined cancer rates of members of the armed forces and the general U.S. population.

“Cancer risk may be affected by multiple factors. It is known that certain behaviors or exposures, such as tobacco smoking, alcohol consumption, poor diet, obesity, radiation and certain chemicals, are associated with cancer,” said Zhu, a researcher at the U.S. Military Cancer Institute.

Although it is unclear why certain groups of military personnel demonstrated different rates, the research team speculated that differing cancer frequencies between military and civilian populations are most likely caused by greater access to medical care and higher rates of cancer screening in the military.



## Armed Forces Radiobiology Research Institute

Three scientists from USU and the Armed Forces Radiobiology Research Institute (AFRRI) created an award-winning research poster that explains how foreign objects embedded in the human body can cause harm.

Navy Commander Michelle Kane; John Kalinich, Ph.D., research biochemist and program adviser of Internal Contamination and Metal Toxicity Program at AFRRI; Christine Kasper, Ph.D., R.N., FAAN, FACSM, professor and acting director, Ph.D. programs, Graduate School of Nursing, USU; and the Department of Veteran Affairs, co-authored a research poster titled, "Weapons-Grade Tungsten Alloy as a Potential Cytotoxin." The scientists received the Best Research Award at the annual conference of the Association of Military Surgeons of the United States held in San Antonio.



The research explains a method used to determine the effects on muscle that has been induced with metal. The standard procedure to assess the long-term health effects has a two-year life span and can be costly and time consuming. The work presented on the poster describes a method to estimate the potential adverse health effects in days rather than years.



## Reaching Across Boundaries

### Regina Armstrong Director, Center for Neuroscience and Regenerative Medicine

Regina Armstrong, Ph.D., (pictured back row, second from right) seeks innovative ways to improve the health of wounded servicemembers by reaching across the traditional boundaries of science. She relies on the expertise of a multidisciplinary team of clinicians and researchers to transform the current understanding of traumatic brain injury.

The center's cooperative research environment aims to quickly move concepts into medical applications by harnessing the strengths of more than 200 scientists. The team is not only diverse in specialties, but also diverse in its affiliations with top scientific institutions.

The center maintains a strong partnership with laboratories throughout the National Capital Region, including the National Institutes of Health, Walter Reed Army Medical Center, National Naval Medical Center and Defense Centers of Excellence for Psychological Health and Traumatic Brain Injury.

Armstrong brings a wealth of experience to the center. She is a professor and former director of the USU Neuroscience Graduate Program, served as director of the Translational Research Program of the Defense Brain and Spinal Cord Injury Program, and is a member of the Committee on Neuroscience Departments and Programs for the Society for Neuroscience.

"If you want to make advances in science, you have to cross disciplines and bring different approaches together," Armstrong said.



# The Future

Construction of a new national military medical center adjacent to the University provides USU with outstanding opportunities to enhance military medicine. The Walter Reed National Military Medical Center will house an integrated, advanced medical facility for all services, with USU serving as its health sciences education core.

The medical center will also bring new research opportunities that will build on the University's collaborative approach to improving military medicine. Two current research initiatives reflect that commitment as USU scientists work to address signature health issues of Operation Iraqi Freedom and Operation Enduring Freedom: suicide prevention and traumatic brain injury.

In 2009, the Defense Department announced a \$50 million cooperative agreement with USU, the Army, National Institute of Mental Health (NIMH) and three other leading universities—Harvard, Columbia and the University of Michigan—to research suicide risk among U.S. servicemen and women.

Robert Ursano, M.D., director of the Center for the Study of Traumatic Stress and chairman of USU's Department of Psychiatry, is leading an interdisciplinary team to carry out the NIMH research—the largest study of suicide and mental health among military personnel ever undertaken.



The study is a direct response to the Army's request to NIMH to enlist the most promising scientific approaches for addressing the rising suicide rate among soldiers. The suicide rate among Army personnel has risen substantially since the beginning of the current conflicts in Iraq and Afghanistan.

Although planned for five years, the study is designed to quickly identify potential risk factors that could inform the continuing research project and the Army's ongoing efforts to prevent suicide among its personnel.

More than half of American schools have undertaken major revisions of their curricula in the last decade. The USU School of Medicine will revise its curriculum for the class entering in 2011. Alison O'Brien, Ph.D, chair, Department of Microbiology and Immunology, and Louis Pangaro, M.D., chair, Department of Medicine, were appointed to lead this comprehensive effort.

The school's dean has requested that the curriculum include a tighter linkage between basic and clinical sciences in all four years of medical school and that clinical clerkships (during which students work closely with hospital faculty in caring for patients) begin before the third year of medical school. Additionally, the dean has urged that careful attention be paid to assessing students' growing competence during all four years.

The venture has been named "Molecules to Military Medicine," reflecting the nature of the proposed changes in the curriculum and its foundation in the unique environment of the military.

The comprehensive curricular reform effort at USU will have faculty and students work with patients, leaders of graduate education and the leaders of the Military Health System to identify outcomes that will be important in the coming decades.

# USU Leadership

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Dale C. Smith, Ph.D.

## **Senior Vice President for University Programs (Southern Region)**

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MG, DC, USA (Ret)

## **Vice President for Distributed Learning/ Acting Vice President for External Affairs**

William Bester, R.N., M.S.N., NEA-BC  
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## **Vice President for Research**

Steven G. Kaminsky, Ph.D.

## **Vice President for Finance and Administration**

Stephen C. Rice, M.S., FACHE  
CAPT, MSC, USN (Ret)

## **Vice President for International Agreements and Affiliations**

Jeffrey L. Longacre, M.D.  
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## **Chief of Staff**

Stephen J. Henske, M.H.A.  
CAPT, MSC, USN (Ret)

## **General Counsel**

John E. Baker, J.D., LL.M.  
COL, JA, USA (Ret)

## **Brigade Commander**

John M. Wempe, M.D., D.V.M., Ph.D.  
COL, MC, USA

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Mary A. Dix, M.S.

## **Faculty Senate President**

Neil E. Grunberg, Ph.D.

## **Director, Armed Forces Radiobiology Research Institute**

Patricia K. Lillis-Hearne, M.D.  
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## **Director, United States Military Cancer Institute**

John Potter, M.D.

## **Graduate School of Nursing**

### **Dean**

Ada Sue Hinshaw, Ph.D., R.N., FAAN

### **Associate Dean for Academic Affairs**

Bruce A. Schoneboom, Ph.D., CRNA  
COL, AN, USA

### **Commandant**

### **Assistant Dean for Student Affairs**

Kandace J. Wolf, B.S.N., M.N.  
LTC, AN, USA

### **Associate Dean for Research**

Marguerite Littleton-Kearney, Ph.D.

### **Assistant Dean for Administration, Finance and Technology**

Ernest L. Hepler, Jr., Ph.D.  
COL, MSC, USA (Ret)

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Chair: Diane Padden, Ph.D., CRNP

### **Department of Health Systems, Risk and Contingency Management**

Chair: Sandra C. Bibb, D.N.Sc., R.N.  
CAPT, NC, USN (Ret)

### **Doctoral Program in Nursing Science**

Acting Director: Christine Kasper, Ph.D., R.N.,  
FAAN, FACS

### **Family Nurse Practitioner Program**

Director: Diane Seibert, Ph.D., CRNP

### **Nurse Anesthesia Program**

Director: Adrienne G. Hartgerink, M.S.N., CRNA  
Lt Col, USAF, NC (Ret)

### **Perioperative Clinical Nurse Specialist Program**

Director: Linda J. Wanzer, M.S.N., CNOR  
COL, AN, USA (Ret)

### **Psychiatric Mental Health Nurse Practitioner Program**

Director: Robert R. Arnold, M.S.N., R.N., PsyCNS  
MAJ, AN, USA



## F. Edward Hébert School of Medicine

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Larry W. Laughlin, M.D., Ph.D.  
CAPT, MC, USA (Ret)

### Vice Dean

John E. McManigle, M.D.  
Col, USAF, MC (Ret)

### Commandant

Patricia L. McKay, M.D.  
CDR, MC, USN

### Associate Dean for Graduate Education

Eleanor S. Metcalf, Ph.D.

### Associate Dean for Student Affairs

Richard M. MacDonald, M.D.  
COL, MC, USA (Ret)

### Associate Dean for Simulation Education

Joseph V. Lopreiato, M.D.  
CAPT, MC, USN (Ret)

### Associate Dean for Medical Education

Donna M. Waechter, Ph.D.

### Associate Dean for Faculty

Brian V. Reamy, M.D.  
Col, USAF, MC

### Associate Dean for Recruitment and Admissions

Margaret Calloway, M.D.  
CAPT (S), MC, USN

### Interim Associate Dean for Graduate Medical Education

Jerri Curtis, M.D.  
CAPT, MC, USN

### Associate Dean for Clinical Research

Vacant

### Department of Anatomy, Physiology and Genetics

Chair: Harvey B. Pollard, M.D., Ph.D.  
CAPT, USPHS (Ret)

### Department of Anesthesiology

Interim Chair: Cynthia H. Shields, M.D.  
COL, MC, USA

### Department of Biochemistry and Molecular Biology

Chair: Teresa M. Dunn, Ph.D.

### Department of Biomedical Informatics

Interim Chair: Ronald Gimbel, Ph.D.  
CDR, MSC, USN (Ret)

### Department of Dermatology

Chair: Leonard B. Sperling, M.D.  
COL, MC, USA (Ret)

### Department of Family Medicine

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COL, MC, USA

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## About the Uniformed Services University of the Health Sciences

Located on the grounds of Bethesda's National Naval Medical Center and across from the National Institutes of Health, USU is the nation's federal school of medicine and graduate school of nursing.

The University educates health care professionals dedicated to career service in the Department of Defense and the U.S. Public Health Service. Medical students are active-duty uniformed officers in the Army, Navy, Air Force and Public Health Service who are being educated to deal with wartime casualties, natural disasters, emerging infectious diseases and other public health emergencies.

Of the University's nearly 4,400 physician alumni and more than 400 advanced practice nurses, the vast majority serve on active duty and are supporting operations in Iraq, Afghanistan and elsewhere, offering their leadership and expertise.

The University also offers graduate programs that are open to civilian and military applicants in biomedical sciences and public health committed to excellence in didactic and research training. The University has awarded more than 300 doctoral and 100 master's degrees to date.





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